

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
29 December 2004 (29.12.2004)

PCT

(10) International Publication Number
WO 2004/113949 A1

(51) International Patent Classification⁷: **G01S 7/02**

(21) International Application Number:
PCT/NO2003/000368

(22) International Filing Date:
3 November 2003 (03.11.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
20032897 23 June 2003 (23.06.2003) NO

(71) Applicant (for all designated States except US): TELEFONAKTIEBOLAGET LM ERICSSON (publ)
[SE/SE]; S-164 83 STOCKHOLM (SE).

(72) Inventor; and

(75) Inventor/Applicant (for US only): VÅLAND, Per, Atle
[NO/NO]; Etterstadsletta 76, N-0659 OSLO (NO).

(74) Agent: OSLO PATENTKONTOR AS; P.O. Box 7007 M,
N-0306 OSLO (NO).

(81) Designated States (national): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE,

GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR,
KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK,
MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT,
RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR,
TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

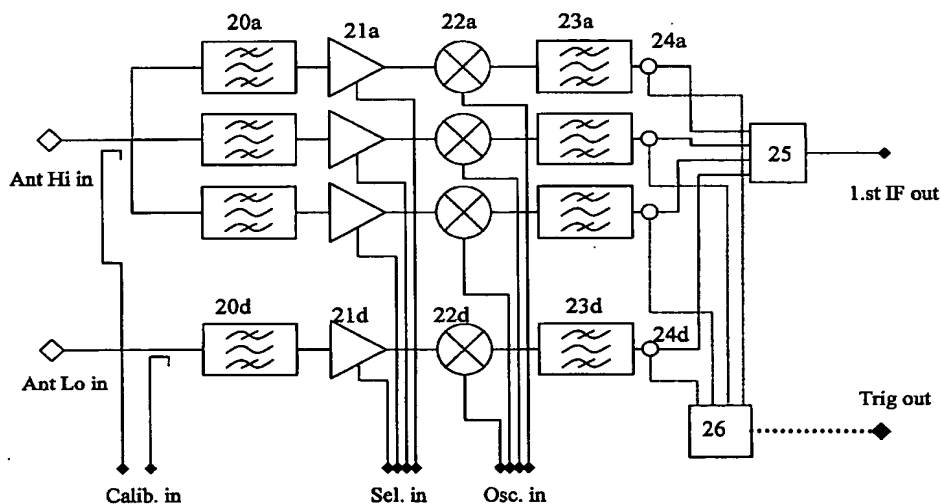
(84) Designated States (regional): ARIPO patent (BW, GH,
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,
SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA,
GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM,

[Continued on next page]

(54) Title: A METHOD FOR DETECTING THE PRESENCE OF RADAR SIGNAL EMITTERS, AN ELECTRONIC SUPPORT MEASURES UNIT AND A SYSTEM FOR DETERMINING THE POSITION AND IDENTITY OF SAID EMITTERS



(57) Abstract: A method for passively detecting the presence of radar signal emitters, in which an ESM unit receives radar signals with a number of antennas, each antenna covering a sector of the surrounding terrain. In order to conserve bandwidth, a technique is used, in which receiving channel is slit into a number of sub-bands. Each sub-band is converted to an IF channel. The individual IF channels are combined into a common IF channel in an adder. This process is repeated once more in order to bring the signals down to baseband, where they are digitized and processed to find the direction to and the identity of the emitter source. A number of ESM units are connected to a control centre. In the control centre the position of the radar emitter is determined by triangulation. In addition, the identity of the emitter is determined by comparison with known emitter signatures stored in a database.



ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

— of inventorship (Rule 4.17(iv)) for US only

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.